WHAT IS CLAIMED IS:

1. A projection display apparatus for use with an object to be projected, comprising:

a light source that projects light onto the object to be projected;

a polarizing unit that polarizes the light emitted from the light source in at least a first direction and a second direction that is different from the first direction;

a color-separation unit that divides the light polarized by the polarizing unit into a plurality of colors;

a plurality of liquid crystal panels that respectively modulate the plurality of colors divided by the color-separation unit;

a color-combining unit that combines the plurality of colors respectively modulated by the plurality of liquid crystal panels so as to generate composite light including the plurality of colors, first rays and second rays;

a polarization separator that separates the first light rays, which are included in the composite light generated by the color-combining unit and polarized in the first direction by the polarizing unit, from the second light rays, which are polarized in the second direction by the polarizing unit, by allowing the first light rays to pass therethrough while reflecting the second light rays therefrom; and

a projecting unit that projects the first light rays separated by the polarization separator onto the object to be projected.

2. The apparatus according to Claim 1, the polarization separator being arranged so that an angle of inclination of the polarization separator, which is defined between a surface that is perpendicular to the direction of travel of the composite light generated by the color-combining unit and a polarization-separator surface on which the composite light enters, results in a contrast that is larger than a contrast at which the angle of inclination is 0°, which is specified by characteristics defining a relationship between the angle of inclination of the polarization separator and the contrast which

is a degree of separation to separate the first light rays from the second light rays.

3. The apparatus according to Claim 2, the angle of inclination of the polarization separator ranging substantially from 15° to 35°.

4. The apparatus according to Claim 1, the polarization separator being provided with a plurality of incident surfaces, on which the composite light enters, arranged to be substantially V-shaped in cross-section.

5. The apparatus according to Claim 4, the polarization separator being arranged at an angle of inclination within a range from a third angle at which the second-direction polarized light reflected by the incident surfaces does not enter the liquid crystal panels to a second angle corresponding to a second contrast which is larger than a first contrast in that a composite-light-emitting surface of the color-combining unit is substantially in parallel with each incident surface in the contrast versus angle of inclination characteristics of the polarization separator.

6. The apparatus according to Claim 4, each of the incident surfaces of the polarization separator being provided with a curved portion so that the second-direction polarized light reflected by the each of the incident surfaces does not enter the liquid crystal panels and is further provided with each heat-absorption member for absorbing the heat generated due to the second-direction polarized light reflected by the individual curved portions.

7. The apparatus according to Claim 1, the liquid crystal panels being formed to be horizontally oriented, and the polarization separator being inclined in a direction separated from a composite-light-emitting surface of the color-combining unit when proceeding in a direction corresponding to a shorter side of the liquid crystal panels.

8. The apparatus according to Claim 1, further comprising a transmissive member that guides the second-direction polarized light reflected by the polarization separator through the color-combining unit to an exterior of the color-combining unit, the transmissive member being

placed on an emitting surface from which the second-direction polarized light is emitted from inside the color-combining unit to the exterior.

9. The apparatus according to Claim 1, further comprising a glass member disposed adjacent to the composite-light-emitting surface of the color-combining unit and formed of material that is the same as material of the color-combining unit,

the polarization separator being incorporated into the glass member.

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10. The apparatus according to Claim 1, the polarization separator being formed by integrally laying a first reflection polarization member disposed so as to face the color-combining unit on a second absorption polarization member disposed so as to face the projecting unit.

11. The apparatus according to Claim 1, the color-combining unit at least including an emitting surface, from which the second-direction polarized light can be emitted from within the color-combining unit to the exterior, and a surface facing the emitting surface,

the polarization separator having a length of the color-combining unit except side-end regions at least in a direction that the surfaces oppose each other.

12. The apparatus according to Claim 11, the polarization separator being inclined by designating a reference point further inside the side-end regions, and being arranged at an angle of inclination within a range from a fourth angle at which the second-direction polarized light reflected by the polarization-separation unit does not enter the liquid crystal panels to the second angle corresponding to the second contrast which is larger than the first contrast in that the composite-light-emitting surface of the color-combining unit is substantially in parallel with an incident surface of the polarization separator in the contrast versus angle of inclination characteristics of the polarization separator.

13. The apparatus according to Claim 1, the polarization separator being provided with a curved portion so that the second-direction polarized light reflected by the polarization separator cannot enter the liquid crystal panels, and being further provided with a heat-absorption member that

absorbs heat generated due to the second-direction polarized light being reflected by the curved portion.

14. The apparatus according to Claim 13, further comprising a transmissive member that guides the second-direction polarized light reflected by the polarization separator through the color-combining unit to the exterior of the color-combining unit, the transmissive member being placed on an emitting surface from which the second-direction polarized light is emitted from inside the color-combining unit to the exterior.

15. The apparatus according to Claim 13, further comprising a glass member disposed adjacent to a composite-light-emitting surface of the color-combining unit and formed of material that is the same as material of the color-combining unit,

the polarization separator being incorporated into the glass member.

16. The apparatus according to Claim 13, the polarization separator being formed by integrally laying a first reflection polarization member disposed so as to face the color-combining unit on a second absorption polarizing plate disposed so as to face the projecting unit.

17. The apparatus according to Claim 1, an incident surface of the polarization separator being inclined relative to an optical axis, and the polarization separator being arranged at an angle of inclination within a range from a first angle at which the second-direction polarized light reflected by the polarization separator does not enter the liquid crystal panels to a second angle corresponding to a second contrast which is larger than a first contrast in that an emitting surface of the liquid crystal panels is substantially in parallel with the incident surface of the polarization separator in the contrast versus angle of inclination characteristics of the polarization-separation unit.

18. The apparatus according to Claim 17, the polarization separator being inclined about one of two axes perpendicularly intersecting the optical axis.

19. The apparatus according to Claim 18, the polarization separator being inclined about both of the two axes.

20. The apparatus according to Claim 17, the polarization separator being provided with a plurality of incident surfaces, on which the composite light enters, arranged to be substantially V-shaped in cross-section.

21. The apparatus according to Claim 20, each of the incident surfaces of the polarization separator being provided with a curved portion so that the second-direction polarized light reflected on the each of the incident surfaces cannot enter the liquid crystal panels, and being further provided with a heat-absorption member that absorbs the heat generated due to the second-direction polarized light reflected by the individual curved portions.

22. The apparatus according to Claim 17, the polarization separator being formed by integrally laying a first reflection polarization member disposed on the side of the liquid crystal panels on a second absorption polarizing plate disposed so as to face the projecting unit.